PHMC Environmental Management Performance Report – September 2000 Section A – Executive Summary



# Section A Executive Summary

# INTRODUCTION

This section provides an executive level summary of the performance information covered in this report and is intended to bring to Management's attention that information considered to be most noteworthy. All cost, schedule, milestone commitments, performance measures, and safety data is current as of July 31. Accomplishments, Issues and Integration items are current as of August 18 unless otherwise noted.

The section begins with a description of notable accomplishments that have occurred since the last report and are considered to have made the greatest contribution toward safe, timely, and cost-effective clean up. Following the accomplishment section is an overall fiscal year-to-date summary analysis addressing cost, schedule, and milestone performance. Overviews of safety ensue. The next segment of the Executive Summary, entitled Critical Issues, is designed to identify the high-level challenges to achieving cleanup progress.

The next section includes FY 2000 EM Management Commitment High Visibility Project Milestones and Critical Few Performance Measures.

The Key Integration Activities section follows next, highlighting PHMC activities that cross contractor boundaries and demonstrate the shared value of partnering with other Site entities to accomplish the work. Concluding the Executive Summary, a forward-looking synopsis of Upcoming Planned Key Events is provided.

# **NOTABLE ACCOMPLISHMENTS**

- A ceremony celebrating the first TRU waste shipment to the Waste Isolation Pilot Plant (which left Hanford on July 12) was held on August 9, 2000. The second shipment remains scheduled for the week of August 24, 2000.
- Retrieval and designation of 425 suspect TRU drums were achieved with the completion of field assaying on August 3, 2000.
- Shipments for treatment of MLLW debris to ATG were completed on August 10, 2000. A total of 1,186 cubic meters (116 cubic meters in the past month) of waste was shipped to ATG representing 102% of the FY2000 shipment objective.
- As of August 18, 2000 a total of 477 cans of Plutonium oxides and sludges were stabilized through thermal stabilization (160 additional items since last report).
- Actions required to close out the B Plant transfer Memorandum of Agreement (MOA) with the Environmental Restoration Contract (Bechtel Hanford, Inc.) were completed 10 days ahead of the Washington State Department of Health (WDOH) due date of July 28, 2000. Effective August 9, 2000, Bechtel Hanford, Inc. has assumed full responsibility for surveillance and maintenance of B Plant and the associated ventilation system.
- A total of 32 Multi-Canister Overpacks (MCOs) were delivered to Hanford ahead of schedule. Fabrication of the MCO baskets continues at the 328 shop at the Hanford Site.

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- "Project L-312, 2101M, MO-235, and Associated Buildings Storm Drainage Resolution" is complete. Completion of construction was one week ahead of the scheduled completion date of August 4, 2000. This milestone helps resolve storm drainage problems around facilities in 200 East and West Areas.
- "Project L-292, Emergency Preparedness Control Station (EPCS)" construction is complete. The installation of 100K/D Emergency Notification Sirens completed construction on schedule and is operational. Redundancies in the electronics will be installed to connect the Emergency Operations Center (EOC) to the sirens. These installations allow the sirens to automatically remain active in the event of a power failure. Due to unforeseen requirements at the Federal Building regarding mounting an antenna on the roof, the project will not close out until the end of September.

# PERFORMANCE DATA AND ANALYSIS

The following provides a brief synopsis of overall PHMC Environmental Management (EM) cost, schedule, and milestone performance.

# **FY 2000 Cost and Schedule Performance**

**Cost Performance** — Fiscal-year-to-date (FYTD) cost performance reflects a one percent (\$4.7 million) unfavorable cost variance that is within the established +10/-5 percent threshold.

**Schedule Performance** — There is a FYTD four percent (\$21.6 million) unfavorable schedule variance that is at the established +10/-7.5 percent threshold.

# Baseline Performance Status FY 2000 Cost / Schedule Performance – All Fund Types Cumulative to Date Status (\$M)

Data Through July 2000

			FYTD		Schedule	Cost	PEM	EAC
		BCWS	BCWP	ACWP	Variance	Variance		
The P	lateau							
1.2	Waste Management TP02,WM03-05	89.1	87.2	84.6	(1.9)	2.6	114.1	108.0
1.2.4	Analytical Svcs (222-S,HASP,WSCF) WM06	22.9	22.7	22.1	(0.2)	0.6	27.8	27.7
1.4.5	Nuclear Materials Stabilization TP05	102.7	87.7	99.4	(15.0)	(11.7)	124.3	123.0
	Subtotal The Plateau	214.7	197.6	206.1	(17.1)	(8.5)	266.3	258.7
The R	iver							
1.4	River Corridor TP01,TP04,TP08,TP10,TP12,TP14	48.7	49.8	44.7	1.2	5.1	58.7	54.7
1.3	Spent Nuclear Fuel WM01	165.8	163.9	170.3	(1.8)	(6.3)	197.2	204.6
1.12	Advanced Reactors (EM)	1.3	1.2	1.1	(0.1)	0.1	1.7	1.3
	Technology Development (EM-50)	18.2	16.5	15.5	(1.7)	1.1	23.9	20.4
	Subtotal The River	234.0	231.5	231.6	(2.4)	(0.0)	281.5	281.0
The Fu	uture							
1.9	HAMMER HM01	4.8	4.6	4.3	(0.2)	0.3	5.9	5.9
	Subtotal The Future	4.8	4.6	4.3	(0.2)	0.3	5.9	5.9
Multip	ole Outcomes							
1.5	Landlord TP13	10.1	8.9	6.7	(1.2)	2.3	14.1	14.7
1.8	Mission Support	19.2	18.4	18.5	(0.9)	(0.1)	23.3	25.0
1.11 & WM07	National Programs OT02, WM07	4.3	4.5	3.1	0.2	1.4	6.0	6.1
	Subtotal Multiple Outcomes	33.6	31.8	28.2	(1.8)	3.5	43.3	45.8
_	Total PHMC Projects	487.1	465.5	470.2	(21.6)	(4.7)	597.0	591.5

#### **Notes:**

Column headings [Budgeted Cost of Work Scheduled (BCWS), Budgeted Cost of Work Performed (BCWP), Estimate At Completion (EAC), etc.] are defined in the glossary at the end of the report. Calculations are based on Project Baseline Summary detail. Waste Management, Analytical Services, River Corridor, and Nuclear Materials Stabilization have included RL-Directed costs (e.g. steam and laundry) in the Project Execution Module (PEM) BCWS. Advanced Reactors (EM) have included steam. Technology Development does not include ORP/RPP TTPs currently reported in the RL Dataset in PEM.

**Funds Management** — Although earned value measures are currently close to or within established thresholds, the PHMC is currently projecting a potential overrun in the Project Completion Control Point (see table of the following page). Project Fiscal Year Spend Forecast (FYSF) data continues to be analyzed in comparison to available funds, and recent trends indicate that without continued action, costs may exceed funds. Management has taken aggressive steps designed to correct this situation and preliminary data indicate that the actions are making significant contributions toward cost reductions. In addition, an internal reprogramming package was approved that transfers \$5M from the Post 2006 control point to the Project Completion

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control point. This transfer helps balance the cost problem between the control points, but does not totally resolve the overall funds management problem. The PHMC is working closely with RL to apply available funds to this Project Completion control point. A number of solutions including the reclassification of the 300 Area Accelerated Cleanup Plan, Hanford fire costs to the Post 2006 control point along with additional EM funds from other sources and continued reductions in FYSFs are in process and will be reflected in future reporting periods.

# Funds Management Funds vs. Spending Forecast (\$000)

(FLUOR HANFORD, INC. ONLY)

	Project Completion *					Post 2006 *						Line Items/Other *					
	Expected Funds		FYSF	,	Variance		Expected Funds		FYSF	١	/ariance		xpected Funds		FYSF	٧	ariance
The Plateau  12 Waste Management  TPO2.WM03-05							103,800		99,289		4,511						
124 Analytical Svcs (222-S,HASP,WSCF) WM06  1.45 Nuclear Materials Stabilization TP05 Line Item	113,389		117,345		(3,956)		26,461		26,474		(13)		17,577		9,789		7,788
Subtotal The Plateau Operating Subtotal The Plateau Line Item	\$ 113,389	\$	117,345	\$	(3,956)	\$	130,261	\$	125,763	\$	4,498	\$	17,577	\$	9,789	\$	7,788
The River  1.4 River Corridor  TP01,TP04,TP08,TP10,TP12,TP14,WM05	47,754		48,488		(734)		5,168		4,920		248		278		159		440
Line Item  Spent Nuclear Fuel  WMM01 Line Item  Line Item  Advanced Reactors (EM)	176,075		181,944		(5,869)								22,669 4,188		22,669 4,017		119 - 171
Subtotal The River Operating Subtotal The River Line Item	\$ 223,829	\$	230,432	\$	(6,603)	\$	5,168	\$	4,920	\$	248	\$	27,135	\$	26,845	\$	290
The Future  1.9 HAMMER  HM01							6,094		5,796		298						
Subtotal The Future						\$	6,094	\$	5,796	\$	298						
Multiple Outcomes 1.5 Landlord TP13							13,932		13,615		317						
1.8 Mission Support OT01 Inventory							16,569 8,386		16,139 7,386		430 1,000						
1.11 National Programs OT02, WM07									,		,		6,150		4,473		1,677
Subtotal Multiple Outcomes Operating Subtotal Multiple Outcomes Line Item						\$	38,887	\$	37,140	\$	1,747	\$	6,150	\$	4,473	\$	1,677
Subtotal PHMC Proj Operating	\$ 337,218	\$	347,777	\$	(10,559)	\$	180,410	\$	173,619	\$	6,791						
Subtotal PHMC Line Items/Other						L						\$	50,862	\$	41,107	\$	9,755
Proposed Solutions	\$ 2,900	\$	(10,448)	\$	13,348	\$		\$	2,566	\$	(2,566)			\$	(2,274)	\$	2,274
Total PHMC	\$ 340,118	\$	337,329	\$	2,789	\$	180,410	\$	176,185	\$	4,225	\$	50,862	\$	38,833	\$	12,029

<sup>\*</sup> Control Point

Expected funds column reflects the total funds expected to be obligat ed to the PHMC contract by fiscal year end.

#### Notes:

This chart reflects FH Project structure, which divides certain PBS WM05 and TP12 between projects. This breakout is necessary to provide FH project managers with information specific to their areas of responsibility and accountability and to facilitate effective management of the funds within their control. Consequently, these figures will differ from those shown elsewhere in this report (as generated in the PEM system).

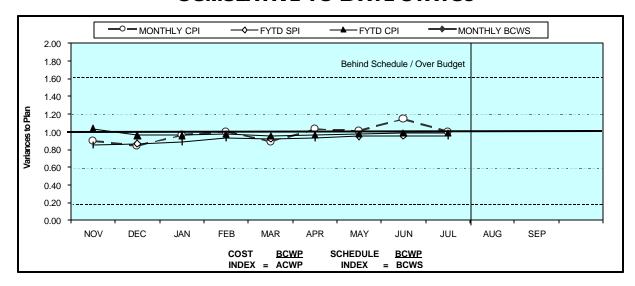
For purposes of funds management, the "Other" category includes all funding sources not suitable for redistribution within the Project Completion and Post 2006 control points.

The Landlord FYSF includes \$2.1M carryover work scope.

The Mission Support Inventory reflects the estimated reserve needed to accommodate indirect commitments.

The following Cost/Schedule and Variance to Plan chart provides an overall graphical view of fiscal year to date cost and schedule performance.

# FY 2000 COST / SCHEDULE PERFORMANCE CUMULATIVE TO DATE STATUS



FY 2000	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MONTHLY SPI	0.90	0.82	0.90	0.95	1.06	0.92	0.97	1.04	1.00	0.97		
MONTHLY CPI	1.36	0.90	0.84	0.96	1.00	0.89	1.03	1.01	1.15	1.00		
FYTD SPI	0.90	0.85	0.87	0.89	0.93	0.92	0.93	0.95	0.95	0.96		
FYTD CPI	1.36	1.04	0.96	0.96	0.97	0.95	0.96	0.97	0.99	0.99		
MONTHLY BCWS	\$ 32,549	\$ 53,749	\$ 43,002	\$ 46,580	\$ 47,980	\$ 59,420	\$ 52,063	\$ 62,362	\$ 46,232	\$ 43,122	\$ 54,516	\$ 55,467
MONTHLY BCWP	\$ 29,438	\$ 43,863	\$ 38,748	\$ 44,295	\$ 50,947	\$ 54,698	\$ 50,649	\$ 64,672	\$ 46,412	\$ 41,781		
MONTHLY ACWP	\$ 21,598	\$ 49,006	\$ 45,973	\$ 46,037	\$ 50,745	\$ 61,462	\$ 49,200	\$ 63,799	\$ 40,480	\$ 41,919		
FYTD BCWS	\$ 32,549	\$ 86,298	\$ 129,299	\$ 175,880	\$ 223,860	\$ 283,280	\$ 335,344	\$ 397,706	\$ 443,938	\$ 487,060	\$ 541,575	\$ 597,042
FYTD BCWP	\$ 29,438	\$ 73,302	\$ 112,049	\$ 156,344	\$ 207,291	\$ 261,990	\$ 312,639	\$ 377,311	\$ 423,723	\$ 465,504		
FYTD ACWP	\$ 21,598	\$ 70,604	\$ 116,577	\$ 162,614	\$ 213,359	\$ 274,821	\$ 324,021	\$ 387,820	\$ 428,301	\$ 470,219		

# **MILESTONE PERFORMANCE**

Milestones represent significant events in project execution. They are established to provide a higher level of visibility to critical deliverables and to provide specific status about the accomplishment of these key events. Because of the relative importance of milestones, the ability to track and assess milestone performance provides an effective tool for managing the PHMC EM cleanup mission.

FYTD milestone performance (Enforceable Agreement [EA], U.S. Department of Energy-Headquarters [DOE-HQ], and RL) shows that 50 of 65 (77 percent) approved baseline milestones were completed on or ahead of schedule, 8 milestones (12 percent) were completed late, and 7 milestones (11 percent) are overdue. The seven overdue milestones are associated with three projects: Nuclear Material Stabilization—five, EM-50—one, and River Corridor—one. These overdue milestones do not share a common cause.

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In addition to the FY2000 milestones described above, there are three overdue milestones (Waste Management and Nuclear Materials Stabilization Projects) from the prior fiscal year (FY1999). Further details regarding these milestones may be found in the Project Sections.

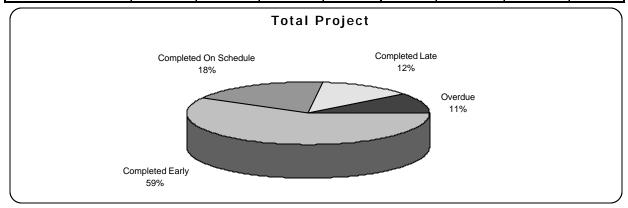
FY 2000 information is depicted graphically below and on the following page. For additional details related to the data in the graphs and prior year milestones, refer to the relevant project section titled "Milestone Exception Report."

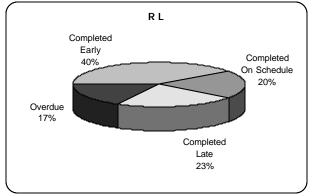
FY 2000 information reflects the current approved baseline. Changes in both the number and type of milestones from month to month are the result of Baseline Change Requests (BCRs) approved during the year.

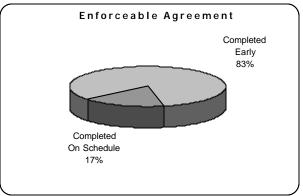
# TOTAL ALL HANFORD PROJECTS

MILESTONE ACHIEVEMENT

	F	ISCAL YEA	R-TO-DATE		REMA			
MILESTONE TYPE	Completed Early	Completed On Schedule	Completed Late	Overdue	Forecast Early	Forecast On Schedule	Forecast Late	TOTAL FY 2000
Enforceable Agreement	24	5	0	0	0	3	0	32
DOE-HQ	0	0	0	1	0	1	1	3
RL	14	7	8	6	0	34	0	69
Total Project	38	12	8	7	0	38	1	104

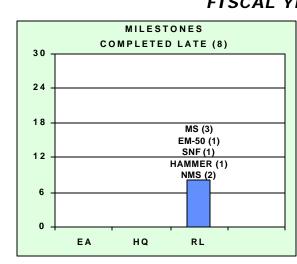


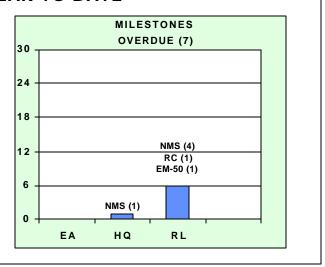




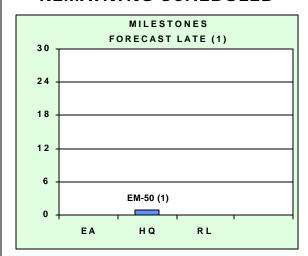
# MILESTONE EXCEPTIONS







# REMAINING SCHEDULED



These charts provide detail by project and milestone level / type for milestones

- Completed Late
- Overdue
- Forecast Late
- Detailed information can be found in the individual project sections

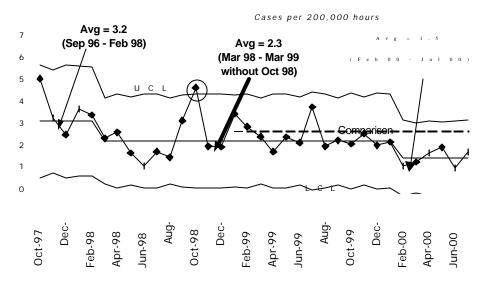
# **SAFETY OVERVIEW**

The focus of this section is to document trends in occurrences. Improvements in these rates are due to the efforts of the PHMC workforce as they implement the Integrated ES&H Management System (ISMS), work towards achieving Voluntary Protection Program (VPP) "star" status, and accomplish work through Enhanced Work Planning (EWP). Safety and health statistical data is presented in this section.

# **SIGNIFICANT SAFETY AND HEALTH EVENTS**

Rates have been stable for over two years. This safety performance plateau has been recognized by the safety organizations, and Fluor Hanford kicked off its Integrated Safety Approach initiative on December 6, 1999 in order to take safety performance to a new level. This initiative focuses on the "people side" of accident prevention. Due to space constraints, FY1996 data is not portrayed on the following graphs.

# **Total OSHA Recordable Case Rate**



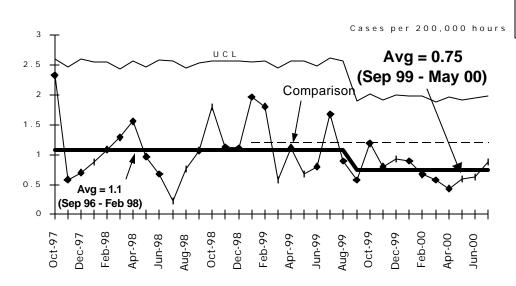
FY 1999 = 2.7
FY 2000 = 1.8
Contractor Comparison
Average = 2.7 (CY99)
New average and control
limits have been calculated
reflecting the significant
decrease noted last month.

Green

FH implemented a program to target an OSHA Recordable Case Rate of 0.9. The Fluor Global Services goal is 1.0. This is in line with Fluor's corporate value of safety and our commitment to the safe clean-up of the Hanford Site.

FH projects' Safety	Improvement Plan activities	have made noticeable con	tributions to an injury fre
k environment.			
lassification of old			

# **OSHA LOST/RESTRICTED WORKDAY CASE RATE**

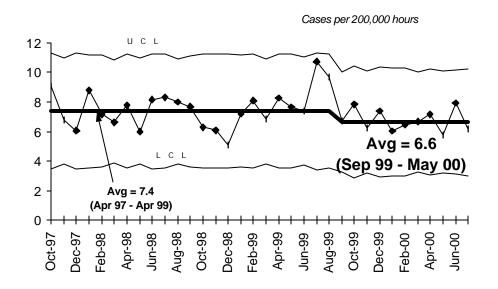


# Green

FY 1999 = 1.2 FY 2000 to date = 0.7 Contractor Comparison Average = 1.2 (CY99) Data continue to follow the current baseline average established for September 1999 - May 2000.

The FH Team has accumulated over 7 million safe work hours since mid-December 1999 without any new lost away workday cases.

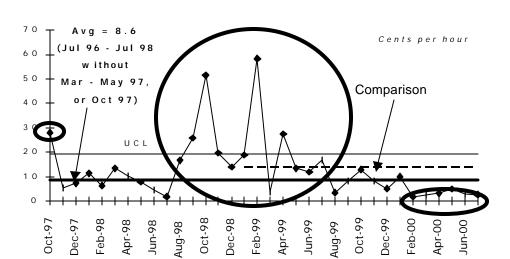
# **First Aid Case Rate**



# Green

First Aid Rate undergoes seasonal cycles. Increases occur in warmer weather due to insect and animal encounters, and due to wind related minor injuries. First Aid case rate has remained relatively stable, a good check that injuries are not being under-reported. A new baseline average has been established for this indicator. So far, there has not been an increase due to summer related injuries.

# **DOE Safety Cost Index**



Green

FY 1999 = 17
FY 2000 to date = 5.3
Contractor Comparison
Average = 13.9 (CY99)
There has been a long
term cycle over the past
three years of decreases
for 7 to 9 months, followed
by increases. The past six
months have been one
standard deviation below
average. However, recent
data may gain further lost
or restricted days.

This indicator has been tracked by Fluor Hanford since the beginning of its contract (October 1996). The baseline average was established in 1998, and there has not been a sufficiently stable set of statistical data to change the baseline average since it was initially established.

# **CRITICAL ISSUES**

### WELDS ON CESIUM CAPSULES "QUESTIONABLE"

Waste Encapsulation Storage Facility (WESF) is scheduled to receive Cogema's report on the Type W overpack capsule welds in early September. Preliminary information indicates that Cogema's Le vel III NDE inspector has identified four of the 23 Type W overpack capsules as having "questionable" weld indications. These indications are related to very small voids/porosity in the weld area. This condition does not pose a problem with regard to the present containment integrity of these capsules. The results of Cogema's analysis will be evaluated to determine if any issues exist with respect to long-term storage in the WESF pool cells.

# • FIRE IMPACTS TO THE INTEGRATED SOIL, VEGETATION, AND ANIMAL CONTROL (ISVAC) PROGRAM

ISVAC program components for fire recovery plan are not currently included as part of the program. This includes control of soil erosion and reduction of blowing sand, control of tumbleweed and other noxious weed growth, and restoration of a productive habitat.

# MANAGEMENT COMMITMENT MILESTONES AS OF JULY 31, 2000

Milestones	Due Date	Forecast Date	Actual Date	Status / Comments
<b>Nuclear Materials Stabilization</b>				
Submit FPF Tank 361 Core Sample Data to EPA (M-015-37B)	5/31/00	5/31/00	5/31/00	Complete
Begin Stab. of Pu Solutions via Mg(OH) <sub>2</sub>	7/31/00	9/12/00		
Spent Nuclear Fuels				
Complete KW Cask Facility Mods (M-034-14A)	2/29/00	2/29/00	2/29/00	Complete
Commence Phased Startup Initiative Hot Testing	5/31/00	9/17/00		See note 1.
Complete Phased Startup Initiative Testing	8/31/00	TBD		
Waste Management				
Initiate TRU Shipment to WIPP	5/31/00	7/12/00	7/12/00	Complete

<sup>&</sup>lt;sup>1</sup> Increased Management attention has been placed on this due to the delays in completing Phase I and II.

# **CRITICAL FEW PERFORMANCE MEASURES**

Performance Measure	Status as of July 31, 2000
Spent Nuclear Fuel:	
Measure - Amount of fuel removed	
Declaration of Readiness to move Spent Nuclear Fuel	Yellow
Phased Startup Initiative Phases I & II	Red
Measure - A mount of SNF Stabilized	NA FY 2000
324/327 Building Deactivation:	
Measure - Number of buildings dispositioned	Green
Waste Management:	
Measure - Adequacy of waste management services support	
Number of analytical equivalent units (AEU's) analyzed	Green
Through-put efficiency of effluent treatment facility (ETF) gpm	Green
Number of 242-A evaporator campaigns completed	Green
Measure - Retrieve and ship TRU offsite	
Number of drums retrieved	Green
Number of shipments to WIPP	Green
Measure - MLLW Treated (m3)	Green
Measure - MLLW Disposed (m3)	Green
Measure - Clear three T-Plant canyon deck sections	Green
Measure - Remove two PUREX separation towers	Green
Plutonium Stabilization:	
Measure - Pu metal/oxides/other types dispositioned (items)	Yellow

Yellows noted above are behind schedule but recoverable. Red is either missed or unrecoverable. Details can be found in the Project Sections.

# **KEY INTEGRATION ACTIVITIES**

The following are the key technical integration activities that are currently underway and cross project/contractor lines. These activities are being addressed by inter-discipline and interproject groups and demonstrate that Hanford Site contractors are working together to accomplish the EM Clean up mission.

- Spent nuclear fuel (SNF) final disposition interface activities, including Office of Civilian Radiation Waste Management (OCRWM) Quality Assurance (QA) Program implementation, ongoing with National SNF Program.
- SNF Project fuel removal acceptance criteria and conceptual design reviews for 324 Building (B Cell) ongoing with River Corridor Project.
- K Basins sludge removal and Shippingport (PA) Pressurized Water Reactor Core 2 SNF conceptual design reviews ongoing with Waste Management Project.
- WM continues working with DOE-RL, DOE-HQ and other Sites to develop and define Hanford's role in disposing of waste from other sites. Hanford's role as one of the identified LLW/MLLW disposal sites for the Complex is yet to be fully defined.
- WM continues working with PNNL, EM-50 and Mixed Waste Focus Area (MWFA) to obtain funding in support of mixed waste processing.
- Nuclear Material Stabilization Project continues working with PNNL on activities associated with the Mg(OH)<sub>2</sub> process in order to accelerate the plutonium solution stabilization process, and polycube stabilization issues (gathering data for the SAR).
- Analytical Services continues to support ORP efforts to establish required analytical support for Waste Treatment Plant (WTP) operations.
- Landlord Project is supporting RL in establishing a Hanford Site Planning Advisory Board made up of cooperating agencies and Tribal representatives to support implementation of the Comprehensive Land Use Plan (CLUP).
- Landlord Project is supporting the RL realty officer in developing and administering Real Estate documents (e.g., licenses, leases, easements, and permits) for onsite and offsite contractors, agencies such as the U.S. Fish and Wildlife Service.

# **UPCOMING PLANNED KEY EVENTS**

The following Key events are extracted from the authorized baseline and are currently expected to be accomplished during the next several months. Most are Enforceable Agreement (EA), HQ or DNFSB Milestones.

# **Waste Management:**

- Accelerate Readiness to Receive Spent Nuclear Fuel K Basin Sludge.
  - Clear three sections of the T Plant Canyon deck by September 2000.
  - Complete entire deck clearing by the end of FY 2001.

#### **Nuclear Materials Stabilization:**

- Begin Pu solution stabilization via Mg(OH)<sub>2</sub> in September 2000.
  - Complete ORR and training activities for stabilization activities in room 230-C in September 2000.
- Continue metal stabilization processing in November 2000.

# **River Corridor Project:**

- Issue the final report for the 300 Area Waste Acid Treatment System (WATS) Resource Conservation and Recovery Act (RCRA) Closure Activities by September 2000.
- Complete Removal of 324 Building Radiochemical Engineering Cell (REC) B Cell Mixed Waste (MW) and Equipment by November 2000.

#### **Spent Nuclear Fuels:**

- Complete Cask Loadout System (CLS) startup testing by mid-September 2000.
- Complete integrated subsystem testing of the Cold Vacuum Drying facility by the end of September.
- Begin DOE Operational Readiness Review (ORR) for fuel removal by early October 2000.
- Begin K West Basin fuel removal, drying and storage operations by November 30, 2000.

### Landlord

- Complete disposition of one well car for Project L-297, "Equipment Disposition Project" by September 8, 2000 (RL Milestone LLP-00-450).
- Complete Project L-292, "Emergency Preparedness Control Station (EPCS)" in September 2000. This project retrofits the 100K/D Sirens to the new control system and changes the frequency for all the outdoor Site sirens so they can be controlled from a central point.